U.S. DEPARTMENT OF AGRICULTURE
AGRICULTURAL MARKETING SERVICE
SCIENCE AND TECHNOLOGY
PLANT VARIETY PROTECTION OFFICE
BELTSVILLE, MD 20705

EXHIBIT C

OBJECTIVE DESCRIPTION OF VARIETY
Soybean (*Glycine max* (L.) Merr.)

NAME OF APPLICANT (S)	TEMPORARY OR EXPERIMENTAL DESIGNATION	VARIETY NAME

ADDRESS *(Street and No. or RD No., City, State, Zip Code, and Country)*	FOR OFFICIAL USE ONLY
	PVPO NUMBER

PLEASE READ ALL INSTRUCTIONS CAREFULLY:

Place the appropriate number that describes the varietal character of this variety in the spaces below.

Place a zero in the first box (e.g., [0][9][9] or [0][9]) when number is either 99 or less or 9 or less respectively. Data for quantitative plant characters should be based on a minimum of 100 plants. Comparative data should be determined from varieties entered in the same trial. Royal Horticultural Society or any recognized color standard may be used to determine plant colors; designate system used _____. Please answer all questions for your variety; lack of response may delay progress of your application.

A. MORPHOLOGY:

Seed Shape:

☐ 1 = Spherical (L/W, L/T, and T/W ratios < 1.2)
2 = Spherical-Flattened (L/W ratio > 1.2; L/T ratio < 1.2)

3 = Elongate (L/W ratio > 1.2; T/W ratio < 1.2)
4 = Elongate-Flattened (L/T ratio > 1.2; L/W ratio > 1.2)

Seed Coat Color:

* ☐ 1 = Yellow 2 = Green 3 = Brown 4 = Black 5 = Other (Specify) _____

Seed Coat Luster:

☐ 1 = Dull 2 = Shiny

Seed Size:

* ☐☐ grams/100 seeds

Hilum Color:

* ☐ 1 = Buff 2 = Yellow 3 = Brown 4 = Gray 5 = Imperfect Black 6 = Black
7 = Other (Specify) _____

A. MORPHOLOGY: (continued)

Cotyledon Color:

* ☐ 1 = Yellow 2 = Green

Seed Protein Peroxidase Activity:

* ☐ 1 = Low 2 = High

Hypocotyl Color:

* ☐ 1 = Green ('Evans' or 'Davis') 2 = Green with Bronze Bands below Cotyledon ('Woodworth' or 'Tracy') 3 = Light Purple below Cotyledons ('Beeson' or 'Pickett 71') 4 = Dark Purple extending to unifoliolate leaves (Hodgson', 'Coker', or 'Hampton 266A')

Leaf Shape:

* ☐ 1 = Lanceolate 2 = Oval 3 = Ovate 4 = Other (Specify) _____

Flower Color:

* ☐ 1 = White 2 = Purple 3 = White with a Purple Throat

Pod Color:

* ☐ 1 = Tan 2 = Brown 3 = Black

Pubescence Color:

* ☐ 1 = Gray 2 = Brown (Tawny) 3 = Light Tawny

Plant Habit:

* ☐ 1 = Determinate 2 = Semi-determinate 3 = Indeterminate 4 = Intermediate

Maturity Group:

* ☐ 1 = 000 2 = 00 3 = 0 4 = I 5 = II
6 = III 7 = IV 8 = V 9 = VI 10 = VII
11 = VIII 12 = IX 13 = X 14 = XI 15 = XII

Maturity Subgroup:

* ☐ Please enter a value from 0-9

B. DISEASE REACTIONS: 0 = Not Tested 1 = Susceptible 2 = Resistant 3 = Tolerant

NOTE: Failure to supply information for at least 5 of the following disease reactions will result in significant delay in issuance of the certificate. Items denoted by and asterisk are the disease reactions most useful in the examination process.

Bacterial

* ☐ Bacterial Pustule (*Xanthomonas campestris* pv. *glycines* (Nakano) Dye)
* ☐ Bacterial Blight (*Pseudomonas syringae* pv. *glycinea* (Coerper) Young, Dye, & Wilkie)
* ☐ Wildfire Blight (*Pseudomonas syringae* pv. *tabaci* (Wolf & Foster) Young, Dye, & Wilkie)

Fungal

* ☐ Brown Spot (*Septoria glycines* Hemmi)
* ☐ Frogeye Leaf Spot (*Cercospora sojina* Hara)
☐ race 1 ☐ race 2 ☐ race 3 ☐ race 4
☐ race 5 ☐ race 6 ☐ race 7 ☐ Important: Any other races tested (Please Specify) _____

B. DISEASE REACTIONS: (continued)

☐ Target Spot (*Corynespora cassiicola* (Berk. & Curt.) Wei)
☐ Downy Mildew (*Peronspora trifoliorum* var. *manchurica* (Naum.) Syd. Ex Gäum)
☐ Powdery Mildew (*Microsphaera diffusa* Cke. & Pk.)
* ☐ Brown Stem Rot (*Phialophora gregata* (Allington & Chamberlain) W. Gams.)
* ☐ Stem Canker (*Diaporthe phaseolorum* (Cke. & Ell.) Sacc.var. caulivora Athow & Caldwell)
* ☐ Pod and Stem Blight (*Diaporthe phaseolorum* (Cke. & Ell.) (Sacc. Var. *sojae* (Lehman) Wehm.)
☐ Purple Seed Stain (*Cercospora kikuchii* (T. Matsu. & Tomoyasu) Gardener)
☐ Rhizoctonia Root Rot (*Rhizoctonia solani* Kühn)

Presence of genes coding for reaction to Phytophthora Root Rot

☐ Rps1 (Williams) ☐ Rps1-a (Mukden) ☐ Rps1-b (Sanga) ☐ Rps1-c (Arksoy) ☐ Rps1-d (PI 103.091) ☐ Rps1-e (PI 172.907)
☐ Rps1-k (Kingwa) ☐ Rps2 (CNS) ☐ Rps3-a (PI 171.442) ☐ Rps3-b (PI 172.901) ☐ Rps3-c (PI 340.046)
☐ Rps4 (PI 86.050) ☐ Rps5 (PI 91.160) ☐ Rps6 (Altona) ☐ Rps7 (Harosoy) ☐ Rps? (Nezumisaya, OX939, OX940)

*Phytophthora Root Rot (Phytophthora sojae (Kaufmann & Gerdemann)

☐ race 1 ☐ race 2 ☐ race 3 ☐ race 4 ☐ race 5 ☐ race 6
☐ race 7 ☐ race 8 ☐ race 9 ☐ race 10 ☐ race 11 ☐ race 12
☐ race 13 ☐ race 14 ☐ race 15 ☐ race 16 ☐ race 17 ☐ race 18
☐ race 19 ☐ race 20 ☐ race 21 ☐ race 22 ☐ race 23 ☐ race 24
☐ race 25 ☐ race 26 ☐ race 27 ☐ race 28 ☐ race 29 ☐ race 30
☐ race 31 ☐ race 32 ☐ race 33 ☐ race 34 ☐ race 35 ☐ race 36
☐ race 37 ☐ race 38 ☐ race 39 ☐ race 40 ☐ race 41 ☐ race 42
☐ race 43 ☐ race 44 ☐ race 45 ☐ Important: Any other races tested (Please Specify)

☐ Bud Blight (Tobacco Ringspot Virus)
☐ Yellow Mosaic (Bean Yellow Mosaic Virus)
* ☐ Cowpea Mosaic (Cowpea Chlorotic Virus)
☐ Pod Mottle (Bean Pod Mottle Virus)
* ☐ Seed Mottle (Soybean Mosaic Virus)

Nematode

*Soybean Cyst Nematode (*Heterodera glycines* Ichinohe)

☐ race 1 ☐ race 4 ☐ race 9
☐ race 2 ☐ race 5 ☐ race 14
☐ race 3 ☐ race 6 ☐ Important: Any other races tested (Please Specify)

☐ Lance Nematode (*Hoplolaimus columbus* Sher)
☐ Southern Root Knot Nematode (*Meliodogyne incognita* (Kofoid & White) Chitwood)
☐ Northern Root Knot Nematode (*Meliodogyne hapla* Chitwood)

B. DISEASE REACTIONS: (continued)

- ☐ Peanut Root Knot Nematode (*Meliodogyne arenaria* (Neal) Chitwood)
- ☐ Reniform Nematode (*Rotylenchus reniformus* Linwood & Olivera)
- ☐ Javanese Nematode (*Meliodogyne javanica* (Treub) Chitwood)
- ☐ Important: Other Nematodes tested (Please Specify) _____

C. PHYSIOLOGICAL RESPONSES: 0 = Not Tested 1 = Susceptible 2 = Resistant 3 = Tolerant

- ☐ Iron Chlorosis on Calcareous Soil
- ☐ Phosphorus
- ☐ Boron
- ☐ Aluminum
- ☐ Salt
- ☐ Drought

☐ Important: Other (Please Specify) _____

D. INSECT REACTIONS: 0 = Not Tested 1 = Susceptible 2 = Resistant 3 = Tolerant

- ☐ Mexican Bean Beetle (*Epilachna varivestis* Mulsant)
- ☐ Potato Leaf Hopper (*Empoasca fabae* (Harris))
- ☐ Important: Other (Please Specify) _____

E. HERBICIDE REACTIONS: 0 = Not Tested 1 = Susceptible 2 = Resistant 3 = Tolerant

- ☐ Metribuzin
- ☐ Bentazone
- ☐ Sulfonylurea
- * ☐ Glyphosate
- ☐ Glufosinate
- ☐ Pendimethalin
- ☐ Important: Other (Please Specify) _____

F. TRANSGENIC COMPOSITION:

Has the development of the subject variety included the insertion of genetic material from an organism other than a soybean, or, the removal of genetic material from the application variety?

If yes, please complete the following information requests*. Use additional pages if necessary. ☐ Yes ☐ No

1. Please state the vector's name:

2. Please state the vector components:

3. Please describe the genetic material successfully transferred into the subject variety:

4. Please describe the insertion protocol:

* A literature citation(s) explaining the four information requests above may be an acceptable alternative to completion of the "Transgenic Composition" portion of this form.

G. BIOCHEMICAL MARKERS:

Please describe any additional genetic and/or biochemical information which you believe will be helpful in further describing the subject variety here (e.g., Single Nucleotide Polymorphisms (SNPs), Simple Sequence Requests (SSRs), Restriction Fragment Length Polymorphisms (RLFPs) Isozyme profiles, etc.). Use additional pages if necessary.

.

H. STATISTICAL DATA FOR APPLICATION AND CITED MOST SIMILAR VARIETY:

(Give paired comparison data)

Variety	No. of Days Maturity	Plant Height (cm)	Seed Content		Statistical Test (e.g. LSD. Std. error, ANOVA, Mann-Whitney u-test or Kruskal-Wallis Test, Etc.) Value (95 or > Probability level)
			% Oil	% Protein	
Application Variety Year/Location 1 Year/Location 2					
Cited Most Similar variety Year/Location 1 Year/Location 2					

I. COMMENTS: